

# Notice of Allowability

Application No.

10/659,119

Examiner

Kevin M. Bernatz

Applicant(s)

KAWASAKI ET AL.

Art Unit

1773

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to interview on 5/21/07.
2. ☒ The allowed claim(s) is/are 1,3-5,7,8,12-16 and 20-26.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20070613.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

***Examiner's Amendment***

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this Examiner's amendment was given in a telephone interview and/or FAX request with Ms. Mindy Ritner on May 21, 2007.

The application has been amended as follows:

- Claim 26, line 7: the number "2.5" was changed to "1.5"; and
  - Claim 26, line 7: the number "15" was changed to "12".

***Reasons for Allowance***

3. The present claims are deemed allowable over the references of record since the references of record fail to disclose or render obvious a plated magnetic film meeting the claimed structure and/or property limitations.

With regard to claim 1, while the prior art of record disclose plated magnetic films comprising columnar crystals, the prior art of record fails to teach or render obvious a plated magnetic film comprising a plurality of columnar crystals consisting essentially of a plurality of fine crystals meeting the claimed material limitations, wherein the plurality of columnar crystals are adjacent to one another with grain boundaries linearly extending in the film thickness direction along the plurality of fine crystals. Specifically, the Examiner notes that Funayama et al. ('982 A1) disclose that the columnar crystals

are *individual crystals* and not a plurality of fine crystals (*Paragraph 0161, last sentence*). Similarly, Hiramoto et al. fail to disclose the claimed structural limitations associated with the plurality of columnar crystals possessing linear grain boundaries and consisting essentially of fine crystals.

With regard to claim 26, Applicants have presented evidence that the optimization to obtain the combined property limitations of a center line average roughness of 1.5 nm or less, a coercive force of 12 Oe or less and a saturation magnetic flux density of 2.25 T or more is neither expected, nor obtainable by routine experimentation. As such, the Examiner deems that the claimed structure and properties represent an unexpected improvement over the art due to the obtainment of the claimed property ranges simultaneously. The Examiner notes that Yoshikawa et al. ('892) disclose low coercivity and high saturation magnetization materials formed from CoFe films meeting the claimed crystal and composition limitations (*e.g. Table 5*), but fails to disclose or render obvious the obtainment of the above recited properties while insuring columnar crystals and a surface roughness meeting the claimed limitations. Kawasaki et al. (U.S. Patent App. No. 2005/0011590 A1) disclose CoNiFe films possessing saturation magnetization values up to 2.25 T, as well as low coercive force, but discloses that the films possess surface roughness values greater than 1.5 nm.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

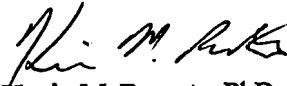
**Conclusion**

5. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kevin M. Bernatz whose telephone number is (571) 272-1505. The Examiner can normally be reached on M-F, 8:30 AM - 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB  
June 12, 2007

  
Kevin M. Bernatz, PhD  
Primary Examiner